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Occurrence of *Astyanax dissensus* Lucena & Thofehrn, 2013 (Teleostei: Characidae) in Argentina

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Abstract: The occurrence of *Astyanax dissensus* in the Uruguay River, at Yapeyú, Corrientes, Argentina is reported for the first time in the country.

Key words: biogeography; Characiformes; species distribution; Uruguay River

The genus *Astyanax* Baird & Girard (Characiformes: Characidae) includes more than 140 valid species (Eschmeyer and Fricke 2015) and is the most diverse genus of Characidae.

Recently, Mirande and Koerber (2015) listed 29 species of *Astyanax* in Argentina. There are 16 species of this genus in the Uruguay River basin and laguna dos Patos system drainages (see Table 2 of Lucena et al. 2013), of which seven are known to occur in Argentina.

The Uruguay River basin has an area of approximately 350,300 km²; with a length of about 2,200 km from its headwaters in the foothills of Serra do Mar, Brazil to its mouth, where it converges with the Paraná River to create the Río de La Plata estuary (Sverlij et al. 1998). According to Ringuelet (1975), there is a great concordance between the fish species of the Paraná and Uruguay basins. López et al. (2008) defined both basins as belonging to the Argentinian ichthyological "province of The Great Rivers", which supports at least 394 fish species, by far the richest in Argentina in terms of fish diversity.

Astyanax dissensus Lucena & Thofehrn, 2013 was described from the laguna dos Patos system, Uruguay River drainage, and from a coastal lagoon of the Tramandaí River system (Lucena et al. 2013). Later, Serra et al. (2014) reported this species in the main channel of the Río Negro and in Tupambaé stream, Uruguay.

This study reports the first occurrence of *Astyanax dissensus* in the Uruguay River basin in Argentina (Figure 1).

A close examination of *Astyanax* museum specimens (Figure 2), housed at the ichthyological collections of Fundación Miguel Lillo (CI-FML) and Museo Argentino de Ciencias Naturales (MACN-ict), from the Uruguay River at Yapeyú, Corrientes, Argentina, allowed us to identify all of the specimens as *A. dissensus* (Figure 2).

Counts and measurements were taken as described by Fink and Weitzman (1974). Measurements were taken

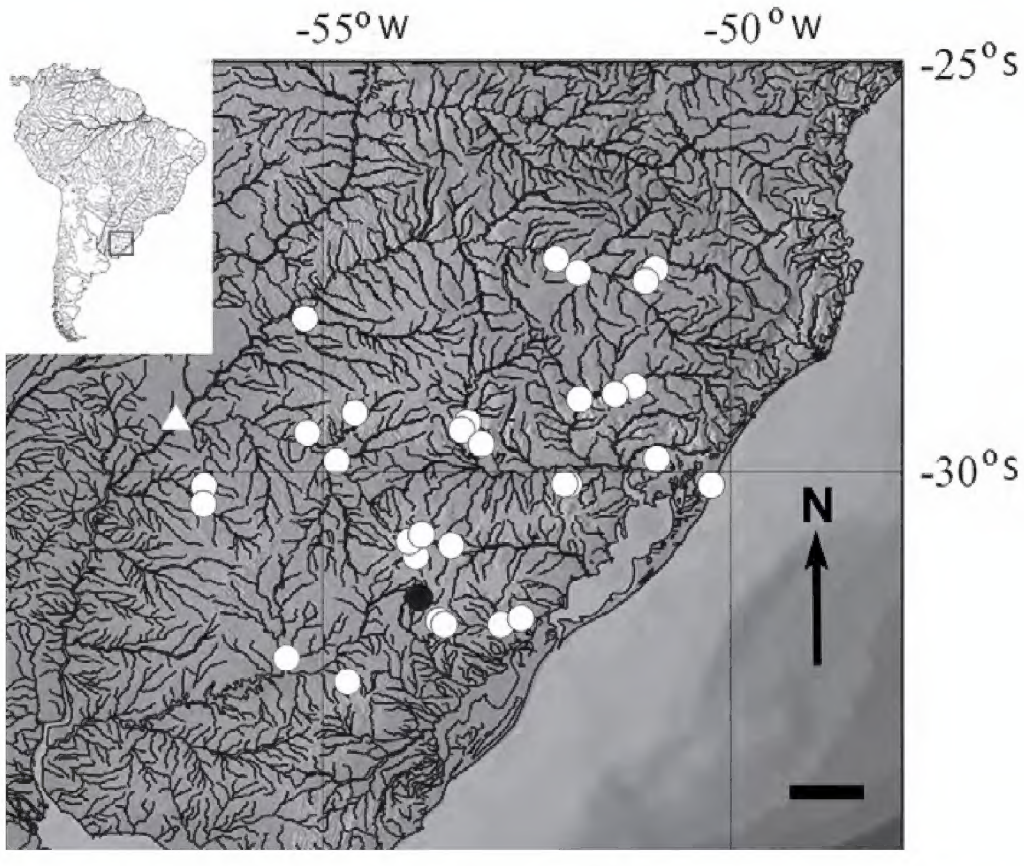

Figure 1. Previous and new records for *Astyanax dissensus*. Map modified from Lucena et al. (2013). Circles indicate previous records in Brazil (Lucena et al. 2013) and Uruguay (Serra et al. 2014). Black circle indicates type locality. The white triangle indicates the new record for this species in Uruguay River at Yapeyú, Corrientes, Argentina (29°28′05.03″ S, 056°48′32.72″ W; 45m above sea level). Scale bar = 100 km.

Figure 2. *Astyanax dissensus*, CI–FML 6183. **A:** Male, 81.3 mm SL. **B:** Female, 69.2 mm SL, from Uruguay River at Yapeyú, Corrientes, Argentina. Scale bar = 10 mm.

point to point with a caliper and are expressed as percentage of standard length (SL) or percentage of head length (HL). Morphometric measurements are provided in Table 1.

Table 1. Morphometrics of 24 specimens of *Astyanax dissensus*, CI–FML 6183 and MACN-ict 10911.

	Mean	Range	SD
Standard length (mm)	70.9	54.3–88.6	-
Percent of standard length			
Predorsal distance	50.9	48.6–52.4	0.9
Preanal distance	65.2	62.8–67.3	1.1
Preventral distance	48.40	46.7–50.1	0.9
Body depth	41.0	39.0– 43.7	1.2
Dorsal-fin base	14.5	13.1– 16.4	0.9
Anal-fin base	32.2	30.0– 34.4	1.1
Pectoral-fin length	21.5	19.5– 22.7	0.7
Pelvic-fin length	17.3	15.5– 20.3	1.0
Pectoral to pelvic-fin distance	21.4	19.6– 22.8	0.7
Pelvic to anal-fin distance	19.4	17.1– 21.0	0.8
Head length	25.7	23.8– 27.3	0.8
Peduncle depth	11.3	10.7– 12.2	0.3
Peduncle length	10.1	9.0– 11.3	0.7
Percent of head length			
Eye diameter	36.9	34.4– 40.7	1.4
Interorbital width	30.9	28.5– 33.5	1.3
Postorbital distance	45.3	42.0– 49.0	2.0
Snout length	23.9	21.8– 26.0	0.9
Maxillary length	25.5	23.2– 27.1	0.9
Upperjaw length	37.5	35.2– 40.0	1.0

Examined material. CI FML 6183, 20 specimens (4 cleared and stained), 54.3–88.6 mm SL, Uruguay River, Río de la Plata system, Yapeyú, Corrientes, Argentina, 29°28′5.03″ S, 056°48′32.72″ W, 45 m above sea level, June 2006. J.E. Sola; MACN-ict 10911, 4 specimens, 63.1–78.8 mm SL, same data as previous.

Specimens were identified using the artificial key provided by Lucena et al. (2013) and corroborated by comparison with the species description.

Analyzed specimens present the combination of characters proposed in the description of the species: one developed heptacuspid tooth on the maxilla, 22–28 branched anal-fin rays, 35–39 perforated scales along the lateral line, two humeral spots, conspicuous lateral band continuous on middle caudal rays, 6–7 scale rows between the dorsal–fin origin and lateral line, and head length 22.7–27.3% of SL (Lucena et al. 2013).

Also, males bear tiny hooks on anal-fin and pelvic-fin rays as described by Lucena et al. (2013).

This is the first record of *Astyanax dissensus* in Argentina. The expansion of the known geographical distribution of *A. dissensus* in the area of the Uruguay River basin and its addition to the fauna of freshwater fishes of Argentina, are part of the requirement of the Convention on Biological Diversity (CBD) which proposes that each country should have accurate and updated lists of fauna and flora (Reis et al. 2003). From this perspective,

the record herein is also a new source of reference for biodiversity projects and biological conservation of basins, contributing to the conservation of the highly diverse South American freshwater fish fauna.

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LITERATURE CITED

Eschmeyer, W.N. and R. Fricke (eds.). 2015. Catalog of fishes: genera, species, references. Accessed at http://research.calacademy.org/research/ichthyology/catalog/fishcatmain.asp, January 2015.

Fink, W.L. and S.H. Weitzman. 1974. The so-called cheirodontinfishes of Central America with descriptions of two newspecies (Pisces: Characidae). Smithsonian Contributions to Zoology 172: 1–46. doi: 10.5479/si.00810282.172

Mirande J.M. and S. Koerber. 2015. Checklist of the freshwater fishes of Argentina (CLOFFAR). Ichthyological Contributions of Peces Criollos 36: 1–68. http://media.hotelwebservice.com/media/pecescriollos/docs/icp_36_-_mirande_koerber_2015_cloffar.pdf

López, H.L., R.C. Menni, M. Donato and A.M. Miquelarena. 2008. Biogeographical revision of Argentina (Andean and Neotropical Regions): na analysis using fresh water fishes. Journal Biogeography 35(9): 1564–1579. doi: 10.1111/j.1365-2699.2008.01904.x

Lucena, C.A.S., J.B. Castro, and V.A. Bertaco. 2013. Three new species of *Astyanax* from river drainages of southern Brazil (Characiformes: Characidae). Neotropical Ichthyology. 11: 537–552. doi: 10.1590/S1679-62252013000300007

Reis, R.E., S.O. Kullander, and C.J. Ferraris. 2003. Check list of the freshwater fishes of South and Central America. Porto Alegre: EDIPUCRS. 729 pp.

Ringuelet, R.A. 1975. Zoogeografía y ecología de los peces de aguas continentales de Argentina y consideraciones sobre las áreas ictiológicos de América del Sur. Ecosur 2(3): 1–122.

Serra, W.S., J. Bessonart, F. Teixeira de Mello, A. Duarte, L. Malabarba and M. Loureiro. 2014. Peces del Rio Negro. Montevideo: MGAP–DINARA. 208 pp.

Sverlij, S.B., R.L.D., Schenke, H.L. López , A. Escpinach Ros. 1998. Peces de Río Uruguay. C.A.R.U, Publicaciones de la Comisión Administrativa del Río Uruguay. 90 pp.

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